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# STIC Search Report

EIC 2100

STIC Database Tracking Number: 130491

**TO:** Michael B Holmes  
**Location:** 2C06  
**Art Unit :** 2121  
**Thursday, August 26, 2004**

**Case Serial Number:** 09/779838

**From:** David Holloway  
**Location:** EIC 2100  
**PK2-4B30**  
**Phone:** 308-7794

**david.holloway@uspto.gov**

## Search Notes

Dear Examiner Holmes,

Attached please find your search results for above-referenced case.  
Please contact me if you have any questions or would like a re-focused search.

David

Set	Items	Description
S1	17659	NEURAL() (SYSTEM? OR NETWORK? OR NET OR NETS) OR AI OR ARTIFICIAL() INTELLIGEN? OR ANN OR MACHINE(N) (TRAINING OR LEARNING) OR ANS OR NEUROMORPH? OR LEARNING() APPARATUS
S2	13289	KEYWORD? OR KEYTERM? OR KEYPHRASE? OR (INDEX OR KEY) () (WORD? OR TERM OR TERMS OR PHRASE?) OR DESCRIPTOR?
S3	1664155	NECESSIT? OR ESSENTIAL? OR NECESSAR? OR REQUIRE? OR UNNECESSAR? OR MUST OR NEEDED OR IMPORTAN? OR VITAL
S4	3541454	WEIGH? OR SCORE? OR VALUE? OR PRICE? OR COST? OR LEVEL? OR METRIC?
S5	3247560	VOTE? OR VOTING OR SIGNAL? OR VECTOR? OR INPUT? OR IN() (PUT OR PUTTING)
S6	2532564	HUMAN? OR INDIVIDUAL? OR PERSON? OR USER? OR MEMBER? OR USER? OR CUSTOMER? OR PATRON?
S7	107348	S6(4N) (S5 OR ENTRY OR ENTER?)
S8	332	S1 AND S7
S9	37	S8 AND (S2 OR TERMINOLOG? OR LEXICON? OR WORD? ? OR TERM? -?)
S10	104	S2 AND S3 AND S4 AND S5 AND S6
S11	141	S9 OR S10
S12	119	S11 AND IC=(G06F? OR G06N?)
S13	71	S12 NOT AD=19950904:19980904
S14	39	S13 NOT AD=19980904:20010904
S15	34	S14 NOT AD=20010904:20040901
S16	34	IDPAT (sorted in duplicate/non-duplicate order)
S17	34	IDPAT (primary/non-duplicate records only)
File 347:JAPIO Nov 1976-2004/Apr(Updated 040802)		
(c) 2004 JPO & JAPIO		
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200454		
(c) 2004 Thomson Derwent		

17/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010395040 \*\*Image available\*\*

WPI Acc No: 1995-296353/199539

XRPX Acc No: N95-224594

**Document processing device for computer - has reference processing part  
for searching document fulfilling reference input conditions from  
document database**

Patent Assignee: CANON KK (CANO )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 7192010	A	19950728	JP 93330249	A	19931227	199539 B

Priority Applications (No Type Date): JP 93330249 A 19931227

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7192010	A	11		G06F-017/30	

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7192010	A	11		G06F-017/30	

Abstract (Basic): JP 7192010 A

The document processing device consists of a document database (103) having a number of documents. The conditions for searching a document are **input** through a reference condition **input** part (101). A reference processing part (102) searches the document fulfilling the reference conditions from the document database by carrying out whole sentence reference. A first extraction part extracts the **keyword** group from the document obtained.

The **keyword** is then estimated. An alignment part aligns the **keyword** with the evaluation **value**. The **keywords** obtained are displayed in order with many appearing documents and the number of documents on a **keyword** display (110). The **user** is made to select a specific **keyword** from the **keyword** groups through a **keyword** selection part (111). A second extraction part extracts the target document including the **keyword** selected from the reference result.

ADVANTAGE - Avoids **unnecessary** reference processing. Reduces time for obtaining reference. Obtains easily useable document reference function. Shortens time for obtaining target document.

Dwg.1/17

Title Terms: DOCUMENT; PROCESS; DEVICE; COMPUTER; REFERENCE; PROCESS; PART;  
SEARCH; DOCUMENT; REFERENCE; INPUT ; CONDITION; DOCUMENT; DATABASE

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

17/5/6 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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009812737 \*\*Image available\*\*

WPI Acc No: 1994-092592/199411

XRPX Acc No: N94-072533

Keyword associative document retrieval system - has device for  
inputting input retrieval condition including keywords and weight  
value for each keyword

Patent Assignee: RICOH KK (RICO )

Inventor: MORITA T

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5297042	A	19940322	US 90593817	A	19901005	199411 B

Priority Applications (No Type Date): JP 89260693 A 19891005

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5297042	A	6	G06F-015/38	

Abstract (Basic): US 5297042 A

The system includes an inputting unit for inputting a retrieval condition including one or a plurality of keywords and a weight value for each keyword and an operating unit having first factors corresp. to relationship values . Each relationship value is defined as a degree of the relationship between two keywords out of keywords which are set in the document retrieval system and second factors corresp. to importance values . Each importance value is defined as a degree of importance of a keyword in each one of a number of documents which are set in the document retrieval system.

The operation unit generates a relevance value , which represents a degree of relevance in satisfying a user 's requirement for each of the documents on the basis of the retrieval condition input from the inputting unit. The first factors and the second factors, and an outputting unit for outputting the relevance value for each of the documents as a retrieval result.

ADVANTAGE - Enable system to be adapted to users requirement .

Dwg.1/2

Title Terms: KEYWORD ; ASSOCIATE; DOCUMENT; RETRIEVAL; SYSTEM; DEVICE;

INPUT ; INPUT ; RETRIEVAL; CONDITION; KEYWORD ; WEIGHT ; VALUE ;

KEYWORD

Derwent Class: T01

International Patent Class (Main): G06F-015/38

File Segment: EPI

17/5/7 (Item 7 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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009298188 \*\*Image available\*\*

WPI Acc No: 1992-425597/199252

XRPX Acc No: N92-324733

Speech identification equipment esp. for telephone systems - uses spoken names as entries into reference memory with telephone connections established using neural network with capacity for expansion

Patent Assignee: ALCATEL NV (COGE ); STANDARD ELEKTRIK LORENZ AG (INTT );  
ALCATEL SEL AG (COGE ); ALCATEL AUSTRALIA LTD (COGE )

Inventor: HACKBARTH H

Number of Countries: 013 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 519360	A2	19921223	EP 92110001	A	19920613	199252	B
DE 4120308	A1	19921224	DE 4120308	A	19910620	199301	
AU 9218283	A	19921224	AU 9218283	A	19920616	199309	
EP 519360	A3	19930210				199348	
AU 658635	B	19950427	AU 9218283	A	19920616	199525	
NZ 243055	A	19950828	NZ 243055	A	19920608	199540	
EP 519360	B1	19970122	EP 92110001	A	19920613	199709	
DE 59207925	G	19970306	DE 507925	A	19920613	199715	
			EP 92110001	A	19920613		

Priority Applications (No Type Date): DE 4120308 A 19910620

Cited Patents: No-SR.Pub; 1.Jnl.Ref; GB 2230370; US 4949382

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 519360 A2 G 6 G10L-005/06

Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE

DE 4120308 A1 5 G10L-007/08

AU 658635 B G10L-007/08

Previous Publ. patent AU 9218283

EP 519360 B1 G 7 G10L-005/06

Designated States (Regional): AT BE CH DE ES FR GB IT LI NL SE

DE 59207925 G G10L-005/06

Based on patent EP 519360

AU 9218283 A G10L-007/08

NZ 243055 A G10L-005/06

Abstract (Basic): EP 519360 A

A neural network approach is used for the identification of speech and has spoken names entered by the user into a speech memory for use as reference data. In parallel with the memory a neural network is trained and configured over a large number of hours in order that the selection of connections within the telephone system is made correctly.

All spoken names are compared with stored values. New names entered to expand the data base are accompanied by an expansion in the neural network .

ADVANTAGE - Robust system immediately ready for action by successive extension of vocabulary by separate words or groups.

Dwg.2/2

Title Terms: SPEECH; IDENTIFY; EQUIPMENT; TELEPHONE; SYSTEM; SPEAKER; NAME; ENTER; REFERENCE; MEMORY; TELEPHONE; CONNECT; ESTABLISH; NEURAL; NETWORK; CAPACITY; EXPAND

Derwent Class: P86; T01; W01; W04

International Patent Class (Main): G10L-005/06; G10L-007/08

International Patent Class (Additional): G06F-015/20 ; G06F-015/31

File Segment: EPI; EngPI

17/5/8 (Item 8 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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009224148 \*\*Image available\*\*

WPI Acc No: 1992-351569/199243

XRPX Acc No: N92-268059

**Creating enhanced neural network shell for application programs - by automatically selecting appropriate neural network model and generating appropriate number of inputs and outputs**

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC )

Inventor: AUSTVOLD S M; BIGUS J P; HENCKEL J D; HOSPERS P A

Number of Countries: 013 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 509949	A2	19921021	EP 92480060	A	19920407	199243	B
BR 9201308	A	19921201	BR 921308	A	19920410	199301	
CA 2061012	A	19921019	CA 2061012	A	19920211	199302	
US 5235673	A	19930810	US 91687582	A	19910418	199333	
EP 509949	A3	19930526	EP 92480060	A	19920407	199403	
US 5444824	A	19950822	US 91687582	A	19910418	199539	
			US 93101526	A	19930803		
EP 509949	B1	19981125	EP 92480060	A	19920407	199851	
DE 69227648	E	19990107	DE 627648	A	19920407	199907	
			EP 92480060	A	19920407		
CA 2061012	C	19990713	CA 2061012	A	19920211	199947	

Priority Applications (No Type Date): US 91687582 A 19910418; US 93101526 A 19930803

Cited Patents: -SR.Pub; 5.Jnl.Ref

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 509949 A2 E 55 G06F-015/80

Designated States (Regional): BE CH DE ES FR GB IT LI NL SE

US 5235673 A 55 G06F-015/18

US 5444824 A 43 G06F-015/18 Div ex application US 91687582  
Div ex patent US 5235673

EP 509949 B1 E G06F-015/80

Designated States (Regional): BE CH DE ES FR GB IT LI NL SE

DE 69227648 E G06F-015/80 Based on patent EP 509949

CA 2061012 C E G06F-015/18

BR 9201308 A G06F-015/00

CA 2061012 A G06F-015/18

EP 509949 A3 G06F-015/80

Abstract (Basic): EP 509949 A

The method for creating a **neural network** involves prompting a user for a problem type and an input data file. The input file has an input data format. A **neural network** model is selected based on the probem type and the input data format.

The user is prompted for **input** data usage information. The **neural network** structure is created for the **neural network** model selected. The problem type can be expressed in non-technical **terminology**.

ADVANTAGE - User is no longer required to have expertise in **neural network** technology to create **neural network** data structure. Reduced programming effort.

Dwg.3A/20

Title Terms: ENHANCE; NEURAL; NETWORK; SHELL; APPLY; PROGRAM; AUTOMATIC;  
SELECT; APPROPRIATE; NEURAL; NETWORK; MODEL; GENERATE; APPROPRIATE;  
NUMBER; INPUT; OUTPUT

Derwent Class: T01

International Patent Class (Main): G06F-015/00 ; G06F-015/18 ;  
G06F-015/80

File Segment: EPI

17/5/13 (Item 13 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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007325600

WPI Acc No: 1987-322607/198746

XRPX Acc No: N87-241239

**Memory management unit for digital signal processor - performs memory boundary checking according to user-specified modulus value and automatically adjusts memory reference**

Patent Assignee: ADVANCED MICRO DEVICES INC (ADMI )

Inventor: DALY M E; WANG B; WANG B C

Number of Countries: 015 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 245922	A	19871119	EP 87301799	A	19870302	198746	B
US 4935867	A	19900619				199027	
EP 245922	B1	19930721	EP 87301799	A	19870302	199329	
DE 3786594	G	19930826	DE 3786594	A	19870302	199335	
			EP 87301799	A	19870302		
US 5440705	A	19950808	US 86836025	A	19860404	199537	
			US 90516984	A	19900430		
EP 245922	B2	19970723	EP 87301799	A	19870302	199734	
JP 3027970	B2	20000404	JP 8748622	A	19870303	200022	

Priority Applications (No Type Date): US 86836025 A 19860304; US 90516984 A 19900430

Cited Patents: 3.Jnl.Ref; A3...9033; No-SR.Pub; EP 154051

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 245922 A E 23

Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE  
JP 3027970 B2 23 G06F-012/02 Previous Publ. patent JP 62208146

US 4935867 A 16

EP 245922 B1 E 25 G06F-015/31

Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE

DE 3786594 G G06F-015/31 Based on patent EP 245922

US 5440705 A 17 G06F-012/06 Div ex application US 86836025

Div ex patent US 4935867

EP 245922 B2 E 29 G06F-017/10

Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE

Abstract (Basic): EP 245922 A

The digital signal processor memory management unit comprises units storing a number of addresses and a number of respective address qualifiers. In response to the indirect-address select control signals an address is selected from the addresses and its respective qualifier. A data address is generated based on the selected address and in correspondence with the selected address qualifiers and the generated address is provided for accessing of data.

The qualifier store stores each qualifier as a number of qualification specific fields and the generator is responsive to the specific fields. The selector concurrently selects the address and its respective qualifier for provision to the generator. An offset provider stores an index offset value for provision to the generator.

ADVANTAGE - Is implemented as monolithic unit providing high data through-put rate and flexibility to execute a wide variety of numeric algorithmic signal processing operations.

Title Terms: MEMORY; MANAGEMENT; UNIT; DIGITAL; SIGNAL; PROCESSOR; PERFORMANCE; MEMORY; BOUNDARY; CHECK; ACCORD; USER; SPECIFIED; MODULUS; VALUE; AUTOMATIC; ADJUST; MEMORY; REFERENCE

Derwent Class: T01; U13; U22

International Patent Class (Main): G06F-012/02 ; G06F-012/06 ; G06F-015/31 ; G06F-017/10

International Patent Class (Additional): G06F-009/26 ; G06F-009/34 ; G06F-013/00 ; G06F-015/00

File Segment: EPI

17/5/21 (Item 21 from file: 347)

DIALOG(R) File 347:JAPIO

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04571273 \*\*Image available\*\*

**PERSONAL** ADAPTIVE TYPE NETWORK CONTROL METHOD

PUB. NO.: 06-243173 [JP 6243173 A]

PUBLISHED: September 02, 1994 (19940902)

INVENTOR(s): MAEDA JUN

HIRAMATSU AKIKO

NISHIGAYA TAKESHI

HAKUTA AKIRA

APPLICANT(s): FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 05-029224 [JP 9329224]

FILED: February 18, 1993 (19930218)

INTL CLASS: [5] G06F-015/40 ; G06F-013/00 ; H04L-012/54; H04L-012/58; H04M-003/42

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 36.4 (LABOR SAVING DEVICES -- Service Automation); 44.3 (COMMUNICATION -- Telegraphy); 44.4 (COMMUNICATION -- Telephone); 45.2 (INFORMATION PROCESSING -- Memory Units)

JOURNAL: Section: P, Section No. 1836, Vol. 18, No. 631, Pg. 37, November 30, 1994 (19941130)

ABSTRACT

PURPOSE: To execute the processing desired by a **user** without **user**'s **input** of indication information.

CONSTITUTION: A **user** action monitor part 16 stores results, which are obtained by discriminating whether the **user** **requires**, or does not **require** presented information, in an action data base 17 correspondingly to **keywords** included in information. An analysis part 18 obtains evaluation **values** of degrees of **importance** of **keywords** from contents of the action data base 17 and writes respective evaluation **values** in a **keyword** evaluation table 19. A service start part 20 refers to the **keyword** evaluation table 19 to instruct an information gathering service execution part 14 to gather the information including a **keyword** whose evaluation **value** is high. The information gathering service execution part 14 retrieves information including the indicated **keyword** from an information data base 21n and presents this information to the **user**.

17/5/27 (Item 27 from file: 347)  
DIALOG(R)File 347:JAPIO  
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03459869 \*\*Image available\*\*  
**KEYWORD** ASSOCIATIVE RETRIEVING DEVICE

PUB. NO.: 03-122769 [JP 3122769 A]  
PUBLISHED: May 24, 1991 (19910524)  
INVENTOR(s): MORITA TETSUYA  
APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 01-260692 [JP 89260692]  
FILED: October 05, 1989 (19891005)  
INTL CLASS: [5] G06F-015/40  
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)  
JOURNAL: Section: P, Section No. 1242, Vol. 15, No. 335, Pg. 20,  
August 26, 1991 (19910826)

#### ABSTRACT

PURPOSE: To reflect a **user**'s own request concept to a retrieving condition expression by calculating the degree of **keyword** relation indicating the strength of relation of respective **keywords** included in a **keyword** dictionary at the time of **inputting** at least one retrieving **keyword** and its **weight value**.

CONSTITUTION: The internal constitution of an associative retrieving part 2 at the time of defining that the whole number of **keywords** is (n) consists of an **input** means 5, a combining means 6 and an output means 7. In the case of forming a retrieving condition for information retrieval, a **keyword** associated from the **keyword** dictionary by the retrieving **keyword** is also displayed together with the **keyword** relating degree. Thereby a retrieving **person** can search and select the **necessary keyword** without referring a thesaurus or the like. Consequently, the retrieving **person** can reflect his (or her) own request concept to the retrieving condition expression.

17/5/31 (Item 31 from file: 347)  
DIALOG(R) File 347:JAPIO  
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03259676 \*\*Image available\*\*  
CONCEPT RETRIEVING DEVICE

PUB. NO.: 02-235176 [JP 2235176 A]  
PUBLISHED: September 18, 1990 (19900918)  
INVENTOR(s): MORITA TETSUYA  
APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 01-054922 [JP 8954922]  
FILED: March 09, 1989 (19890309)  
INTL CLASS: [5] G06F-015/40  
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)  
JOURNAL: Section: P, Section No. 1139, Vol. 14, No. 551, Pg. 124,  
December 07, 1990 (19901207)

#### ABSTRACT

PURPOSE: To improve document retrieving performance by using a **keyword** group based upon a prescribed sort to calculate a **vector** using the assignment degree of the document as an element and representatively and quantitatively processing the concept of each document.

CONSTITUTION: A reference document is read out as a registered document 1 and a **keyword** is extracted and registered in a thesaurus file 20. The sort (k) of the file 20 and the appearance frequency of the **keyword** (j) are counted and logical experience probability is calculated by a logical experience probability calculating part 10 based upon a **required** formula. Then, a document (i) is **inputted**, the **keyword** (j) is extracted and the appearance frequency, the degree of assignment and a concept feature **value vector** are calculated by a calculating part 10 based upon a **required** formula. When a **user** selects plural **keywords** by a self-request, a document retrieving part 12 finds out the degree of assignment, the concept feature **value vectors** and the distances of concept of all the documents from retrieving condition equations and displays the documents in the ascending order of distances on a display part 2 as a retrieved result. Consequently, the **user** can obtain retrieval in the order close to the self requesting concept.

17/5/34 (Item 34 from file: 347)  
DIALOG(R) File 347:JAPIO  
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02824328 \*\*Image available\*\*  
STEPWISE KEYWORD EXTRACTING SYSTEM

PUB. NO.: 01-121928 [JP 1121928 A]  
PUBLISHED: May 15, 1989 (19890515)  
INVENTOR(s): OTAKI NORIKO  
NAGAMATSU SUKETSUGU  
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 62-279195 [JP 87279195]  
FILED: November 06, 1987 (19871106)  
INTL CLASS: [4] G06F-007/28  
JAPIO CLASS: 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units);  
30.2 (MISCELLANEOUS GOODS -- Sports & Recreation); 45.2  
(INFORMATION PROCESSING -- Memory Units)  
JOURNAL: Section: P, Section No. 918, Vol. 13, No. 363, Pg. 36, August  
14, 1989 (19890814)

#### ABSTRACT

PURPOSE: To improve the capacity and the efficiency of **keyword** extraction by providing a grammar dictionary as the reference for **keyword** extraction and selecting and using grammars of this dictionary in accordance with the description form of an **inputted** sentence and the designation from a **user**

CONSTITUTION: A sentence written with natural words free from restrictions is **inputted**, and a terminology dictionary 2-9 is used to decompose this **input** sentence into units of parts of speech. The **level** of grammars to be used is **inputted** by conversation with the **user**. The **input** of grammar items is checked; and if all of **required** items are not designated, features of the description form of the sentence are found from results of classification of the sentence into parts of speech, and grammars of a proper **level** are automatically selected, and these grammars are taken out from a classified grammar dictionary 2-10 and are combined. A **keyword** is extracted based on combined grammars, and the extracted **keyword** is outputted. Thus, the capacity and the efficiency of **keyword** extraction are improved.

Set Items Description  
S1 114706 NEURAL()(SYSTEM? OR NETWORK? OR NET OR NETS) OR AI OR ARTIFICIAL() INTELLIGEN? OR ANN OR MACHINE(N) (TRAINING OR LEARNING)  
OR ANS OR NEUROMORPH? OR LEARNING() APPARATUS  
S2 16696 KEYWORD? OR KEYTERM? OR KEYPHRASE? OR (INDEX OR KEY) () (WORD? OR TERM OR TERMS OR PHRASE?) OR DESCRIPTOR?  
S3 1326081 NECESSIT? OR ESSENTIAL? OR NECESSAR? OR REQUIRE? OR UNNECESSAR? OR MUST OR NEEDED OR IMPORTAN? OR VITAL  
S4 1190275 WEIGH? OR SCORE? OR VALUE? OR PRICE? OR COST? OR LEVEL? OR METRIC?  
S5 688286 VOTE? OR VOTING OR SIGNAL? OR VECTOR? OR INPUT? OR IN() (PUT OR PUTTING)  
S6 1085522 HUMAN? OR INDIVIDUAL? OR PERSON? OR USER? OR MEMBER? OR USER? OR CUSTOMER? OR PATRON?  
S7 13 S1(S)S2(S)S3(S)S5(2N)S6  
S8 72 S1(S)S2(S)S3(S)S4  
S9 36 S1(S)S2(S)S3(S)S5(S)S6  
S10 81 S7 OR S8 OR S9  
S11 57 S10 AND IC=(G06F? OR G06N?)  
S12 53 S11 NOT AD=19950904:19970904  
S13 26 S12 NOT AD=19970904:20000904  
S14 11 S13 NOT AD=20000904:20040901  
File 348:EUROPEAN PATENTS 1978-2004/Aug W03  
(c) 2004 European Patent Office  
File 349:PCT FULLTEXT 1979-2002/UB=20040819, UT=20040812  
(c) 2004 WIPO/Univentio

14/3,K/1 (Item 1 from file: 348)  
DIALOG(R) File 348:EUROPEAN PATENTS  
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00508315

ON-LINE PROCESS CONTROL NEURAL NETWORK USING DATA POINTERS  
NEURONALES NETZWERK MIT DATENZEIGERN FÜR DIE ON-LINE STEUERUNG EINES  
PROZESSES  
RESEAU NEURONAL DE COMMANDE DE PROCESSUS EN DIRECT UTILISANT DES POINTEURS  
DE DONNEES

PATENT ASSIGNEE:

E.I. DU PONT DE NEMOURS AND COMPANY, (200580), 1007 Market Street,  
Wilmington Delaware 19898, (US), (applicant designated states:  
BE;DE;FR;GB;IT;NL)

INVENTOR:

SKEIRIK, Richard, D., 11 Beech Hill Drive, Newark, DE 19711, (US)

LEGAL REPRESENTATIVE:

Beresford, Keith Denis Lewis et al (28273), BERESFORD & Co. 2-5 Warwick  
Court High Holborn, London WC1R 5DJ, (GB)

PATENT (CC, No, Kind, Date): EP 495085 A1 920722 (Basic)  
EP 495085 B1 971119  
WO 9202864 920220

APPLICATION (CC, No, Date): EP 91915833 910725; WO 91US5253 910725

PRIORITY (CC, No, Date): US 562388 900803

DESIGNATED STATES: BE; DE; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS: G05B-013/02; G06F-015/76

NOTE:

No A-document published by EPO

LANGUAGE (Publication, Procedural, Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9711W2	1682
CLAIMS B	(German)	9711W2	1529
CLAIMS B	(French)	9711W2	2154
SPEC B	(English)	9711W2	23108
Total word count - document A			0
Total word count - document B			28473
Total word count - documents A + B			28473

...INTERNATIONAL PATENT CLASS: G06F-015/76

...SPECIFICATION substantially natural language input. It removes the unnecessary natural language words, and groups the remaining **key words** and numeric **values** into symbolic specifications of **neural network** subfunctions. One way to implement parsing is to break the input into sentences and clauses...

...and restrict the specification to a single subfunction per clause. Each clause is searched for **key words**, numeric **values**, and associated **key words**. The remaining words are discarded. A given **key word** (term) corresponds to a certain sub-function of the overall **neural network** function.

Or, key words can have relational tag words, like "in," "with," etc., which can...

14/3,K/7 (Item 3 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00205673

ON-LINE TRAINING NEURAL NETWORK FOR PROCESS CONTROL  
RESEAU NEURONAL A APPRENTISSAGE EN DIRECT POUR COMMANDE DE PROCESSUS

Patent Applicant/Assignee:

E I DU PONT DE NEMOURS & CO (INC ),

Inventor(s):

SKEIRIK Richard D,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9202867 A1 19920220

Application: WO 91US5260 19910725 (PCT/WO US9105260)

Priority Application: US 9092 19900803

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AT BE CA CH DE DK ES FR GB GR IT LU NL SE

Publication Language: English

Fulltext Word Count: 26489

International Patent Class: G06F-15:76

Fulltext Availability:

Detailed Description

Detailed Description

... and

restrict the specification to a single subfunction per clause. Each clause is searched for **key words**, numeric **values**, and associated **key words**. The remaining words are discarded. A given **key word** (term) corresponds to a certain sub-function of the overall **neural network** function.

or, key words can have relational tag words, like "in," "with," etc., which can...

...a set of pre-defined subfunctions which implement various kinds of transfer functions in the **neural network** elements. The specific data that might be allowed in combination with this term might be,, for example,, the term "sigmoidal" or the word "threshold." These specific data, combined with the **key word** ,, indicate which of the sub functions -should be used to provide the activation function capability in the **neural network** when it is constructed, Another example might be **key word** "nodesr" which might have an equivalent "nodes" or "elements," The associated data would be ...look for the numeric data in combination with the word or term "in" and the **key word** "hidden layerr" etc, In combination,, these might specify the number of nodes in the middle layer. Thus,, it can be seen that various **levels** of flexibility in the substantially natural language specification can be provided. Increasing **levels** of flexibility **require** more detailed and extensive specification of **key words** and associated data with their associated key In contrast\$, the **key word** "fully connected" might have no associated **inputo** By itself, it conveys the entire meaning.

The neural network itself is constructed,, using this...

14/3,K/8 (Item 4 from file: 349)  
DIALOG(R)File 349:PCT FULLTEXT  
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00205672

COMPUTER NEURAL NETWORK PROCESS MEASUREMENT AND CONTROL SYSTEM AND METHOD  
PROCEDE ET SYSTEME DE COMMANDE ET DE MESURE DE PROCESSUS PAR RESEAU  
NEURONAL INFORMATISE

Patent Applicant/Assignee:

E I DU PONT DE NEMOURS & CO (INC ),

Inventor(s):

SKEIRIK Richard D,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9202866 A1 19920220

Application: WO 91US5259 19910725 (PCT/WO US9105259)

Priority Application: US 9095 19900803

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AT BE CA CH DE DK ES FR GB GR IT LU NL SE

Publication Language: English

Fulltext Word Count: 25963

International Patent Class: G06F-15:76

Fulltext Availability:

Detailed Description

Detailed Description  
... The collection of all the symbolic specifications make up a symbolic specification of the entire **neural network** function, The parsing step processes the substantially natural language input. It removes the **unnecessary** natural language words, and groups the remaining **key words** and numeric **values** into symbolic specifications of **neural network** subfunctions.

One way to implement parsing is to break the input into sentences and clauses...

Set      Items      Description  
S1      17659     NEURAL() (SYSTEM? OR NETWORK? OR NET OR NETS) OR AI OR ARTI-  
          FICIAL() INTELLIGEN? OR ANN OR MACHINE(N) (TRAINING OR LEARNING)  
          OR ANS OR NEUROMORPH? OR LEARNING() APPARATUS  
S2      13289     KEYWORD? OR KEYTERM? OR KEYPHRASE? OR (INDEX OR KEY) () (WOR-  
          D? OR TERM OR TERMS OR PHRASE?) OR DESCRIPTOR?  
S3      1556565    NECESSIT? OR ESSENTIAL? OR NECESSAR? OR REQUIRE? OR UNNECE-  
          SSAR? OR MUST  
S4      3541454    WEIGH? OR SCORE? OR VALUE? OR PRICE? OR COST? OR LEVEL? OR  
          METRIC?  
S5      3245735    SIGNAL? OR VECTOR? OR INPUT? OR IN() (PUT OR PUTTING)  
S6      11        S1 AND S2 AND S3  
S7      31        S1 AND S2 AND S4  
S8      49        S1 AND S2 AND S5  
S9      7         S1(4N)S2  
S10     60        S6 OR S7 OR S8 OR S9  
S11     49        S10 AND IC=(G06F? OR G06N?)  
S12     37        S11 NOT AD=19950904:19980904  
S13     20        S12 NOT AD=19980904:20010904  
S14     19        S13 NOT AD=20010904:20040901  
S15     19        IDPAT (sorted in duplicate/non-duplicate order)  
S16     19        IDPAT (primary/non-duplicate records only)  
File 347:JAPIO Nov 1976-2004/Apr (Updated 040802)  
      (c) 2004 JPO & JAPIO  
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200454  
      (c) 2004 Thomson Derwent

16/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010989611

WPI Acc No: 1996-486560/199649

XRPX Acc No: N96-409933

Automatic process for classification of text - uses training text sets to generate descriptors used in transformation vectors for classification

Patent Assignee: DAIMLER-BENZ AG (DAIM )

Inventor: BAYER T

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19526263	C1	19961107	DE 1026263	A	19950719	199649 B

Priority Applications (No Type Date): DE 1026263 A 19950719

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
DE 19526263	C1		G06F-017/27	

Abstract (Basic): DE 19526263 C

The process relates to the automatic processing of digitised text based upon normally spoken words. The process uses neural network technology and employs a statistical process for classification purposes. The classification is based upon a large number of descriptors identified from the text and these are used to obtain characteristic vectors from a generated list.

The processing is reduced with the aid of a transformation vector . The generation of descriptors is obtained with the use of a number of training texts that are used in the transformation vector .

USE/ADVANTAGE - Reduces classification process of classifying text.  
Used in automatic processing of digitised text.

Dwg.0/0

Title Terms: AUTOMATIC; PROCESS; CLASSIFY; TEXT; TRAINING; TEXT; SET;  
GENERATE; DESCRIBE; TRANSFORM; VECTOR ; CLASSIFY

Derwent Class: T01

International Patent Class (Main): G06F-017/27

File Segment: EPI

16/5/9 (Item 9 from file: 347)  
DIALOG(R)File 347:JAPIO  
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04868062 \*\*Image available\*\*

METHOD FOR CALCULATING RELIABILITY IN PREDICTED RESULT OF **NEURAL NETWORK**

PUB. NO.: 07-160662 [JP 7160662 A]  
PUBLISHED: June 23, 1995 (19950623)  
INVENTOR(s): YAMAMOTO SHUICHI  
KAWAGUCHI SHIHORI  
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP  
(Japan)  
HITACHI TOHOKU SOFTWARE KK [000000] (A Japanese Company or  
Corporation), JP (Japan)  
APPL. NO.: 05-302885 [JP 93302885]  
FILED: December 02, 1993 (19931202)  
INTL CLASS: [6] **G06F-015/18 ; G06F-009/44**  
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.1  
(INFORMATION PROCESSING -- Arithmetic Sequence Units)

ABSTRACT

PURPOSE: To provide a measure capable of judging the validity of a result predicted by a **neural network** even by a novice by calculating final reliability from the allowable range of learning data which is the result of inference and retrieval.

CONSTITUTION: Prediction data of a data base 4 are **inputted** to a neuro simulator 3, prediction is performed in the neuro simulator 3 and a predicted result 7 is outputted. Then, the allowable ranges of learning data output items **required** for a reliability calculation processing and distance definition, interference relation and **weighting** which are information **required** for an example base inference are **inputted** from a **keyword** display 8. Then, based on the predicted result 7, in an example base inference part 5, example data closest to the prediction data 7 are inferred and retrieved from the data base 1 and an inferred result 9 is outputted. Finally, the reliability to the predicted result 7 of the **neural network** is calculated in a reliability calculation means 6 based on predicted result 7 and the inferred result 9 and the result 10 is outputted.

16/5/10 (Item 10 from file: 347)  
DIALOG(R) File 347:JAPIO  
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04242007 \*\*Image available\*\*  
INFORMATION DATA BASE DEVICE

PUB. NO.: 05-233707 [JP 5233707 A]  
PUBLISHED: September 10, 1993 (19930910)  
INVENTOR(s): TOYOURA JUN  
ARITA HIDEKAZU  
SEO KAZUO  
KOBUNE RYUICHI  
YOKOTA TAKASHI  
KONAKA HIROYOSHI  
ABE KAZUHIRO

APPLICANT(s): MITSUBISHI ELECTRIC CORP [000601] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 04-061552 [JP 9261552]

FILED: February 17, 1992 (19920217)

INTL CLASS: [5] G06F-015/40 ; G06F-009/44 ; G06F-015/18

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 45.1 (INFORMATION PROCESSING -- Arithmetic Sequence Units)

JOURNAL: Section: P, Section No. 1664, Vol. 17, No. 696, Pg. 10,  
December 20, 1993 (19931220)

#### ABSTRACT

PURPOSE: To obtain an information data base by which the decision of a class or the association of an association word can be automatically attained without any artificiality.

CONSTITUTION: This device is equipped with an encoder 2 which converts a **keyword** extracted from text information by a **keyword** extracting means 1 into a feature **vector**, and a **neural network** 3 which decides the class to which the text information belongs by classifying the feature **vector** converted by the encoder 2 based on a past learned result, and associates the feature **vector** indicating the association word based on the past learned result from the class. The feature **vector** associated by the **neural network** 3 is converted into the association word by a decoder 4.

16/5/11 (Item 11 from file: 347)  
DIALOG(R) File 347:JAPIO  
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04136586 \*\*Image available\*\*  
**KEYWORD SPOTTING SYSTEM BY NEURAL NETWORK**

PUB. NO.: 05-128286 [JP 5128286 A]  
PUBLISHED: May 25, 1993 (19930525)  
INVENTOR(s): SAWAI HIDEFUMI  
APPLICANT(s): RICOH CO LTD [000674] (A Japanese Company or Corporation), JP  
(Japan)  
APPL. NO.: 03-317545 [JP 91317545]  
FILED: November 05, 1991 (19911105)  
INTL CLASS: [5] G06G-007/60; **G06F-015/18**; G10L-003/00; G10L-009/10  
JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications); 42.5  
(ELECTRONICS -- Equipment)  
JAPIO KEYWORD: R108 (INFORMATION PROCESSING -- Speech Recognition &  
Synthesis)  
JOURNAL: Section: P, Section No. 1611, Vol. 17, No. 505, Pg. 48,  
September 10, 1993 (19930910)

#### ABSTRACT

PURPOSE: To establish the effective constitution method and learning method  
of a **neural network**, regarding the spotting system of **keyword** sound  
having a wide versatility.

CONSTITUTION: When sound is **inputted** in a sound **input** part 5, the  
feature analysis of sound such as a FFT(fast Fourier transform) is  
performed in a feature extraction part 1. As the analysis is a **keyword**  
spotting, the segment processing of sound section especially by sound wave  
power is not performed. In a learning mode 6, a discrimination learning is  
performed for **keywords** and sound other than **keywords** (including noise)  
by using a **neural network** in a **neural net** learning part 2. In a  
recognition mode 7, a spotting is performed for **keywords** by using the  
learned **neural network** in a **neural network** recognition part 3. The  
spotting result is outputted in a **keyword** detection part 4.

Set Items Description  
S1 17659 NEURAL() (SYSTEM? OR NETWORK? OR NET OR NETS) OR AI OR ARTIFICIAL() INTELLIGEN? OR ANN OR MACHINE(N) (TRAINING OR LEARNING)  
OR ANS OR NEUROMORPH? OR LEARNING() APPARATUS  
S2 13289 KEYWORD? OR KEYTERM? OR KEYPHRASE? OR (INDEX OR KEY) () (WORD?  
D? OR TERM OR TERMS OR PHRASE?) OR DESCRIPTOR?  
S3 1556565 NECESSIT? OR ESSENTIAL? OR NECESSAR? OR REQUIRE? OR UNNECESSAR? OR MUST  
S4 3541454 WEIGH? OR SCORE? OR VALUE? OR PRICE? OR COST? OR LEVEL? OR  
METRIC?  
S5 3245735 SIGNAL? OR VECTOR? OR INPUT? OR IN() (PUT OR PUTTING)  
S6 11 S1 AND S2 AND S3  
S7 31 S1 AND S2 AND S4  
S8 49 S1 AND S2 AND S5  
S9 7 S1(4N)S2  
S10 60 S6 OR S7 OR S8 OR S9  
S11 49 S10 AND IC=(G06F? OR G06N?)  
S12 37 S11 NOT AD=19950904:19980904  
S13 20 S12 NOT AD=19980904:20010904  
S14 19 S13 NOT AD=20010904:20040901  
S15 19 IDPAT (sorted in duplicate/non-duplicate order)  
S16 19 IDPAT (primary/non-duplicate records only)  
S17 2492441 PERSON? OR INDIVIDUAL? OR USER? OR MEMBER? OR HUMAN?  
S18 24 S1 AND S2 AND S17  
S19 6 S18 NOT S10  
File 347:JAPIO Nov 1976-2004/Apr (Updated 040802)  
(c) 2004 JPO & JAPIO  
File 350:Derwent WPIX 1963-2004/UD,

19/5/5 (Item 5 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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012613730

WPI Acc No: 1999-419834/199936

XRPX Acc No: N99-313427

**Improving conversational abilities of computers**

Patent Assignee: STEPHAN E (STEP-I)

Inventor: STEPHAN E

Number of Countries: 021 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19752907	A1	19990610	DE 1052907	A	19971128	199936	B
WO 9928809	A2	19990610	WO 98EP7686	A	19981127	199936	
DE 19752907	C2	20021031	DE 1052907	A	19971128	200273	

Priority Applications (No Type Date): DE 1052907 A 19971128

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

DE 19752907 A1 3 G06F-003/16

WO 9928809 A2 G G06F-003/00

Designated States (National): CA JP US

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU  
MC NL PT SE

DE 19752907 C2 G06F-003/16

Abstract (Basic): DE 19752907 A1

NOVELTY - The computer makes suitable adjustments to its logically-selected responses on line, using sensors and/or comparators to measure and analyze bodily reactions of **individuals** it engages in conversation. (Conversation and speech, may import other forms of communication.)

USE - To improve conversational abilities of computers.

ADVANTAGE - The invention adds perception to responsiveness on the part of the computer, further optimizing its conversational utterings, which may be originally selected simply on the basis of e.g. **user** speech **keyword** recognition. More **users** may be engaged in equal conversation. The computer approaches more closely the Turing criterion for **artificial intelligence**. **Personalized** psychotherapy is suggested.

pp; 3 DwgNo 0/0

Title Terms: IMPROVE; CONVERSATION; COMPUTER

Derwent Class: T01; W04

International Patent Class (Main): G06F-003/00; G06F-003/16

File Segment: EPI

19/5/6 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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012289102 \*\*Image available\*\*

WPI Acc No: 1999-095208/199908

Related WPI Acc No: 2002-009745

XRPX Acc No: N99-069270

Artificial intelligent natural language computational interface system - outputs information to user based upon analysis of data from stored resource information, thereby provides new data to user which is not directly stored in resource information

Patent Assignee: PEGASUS MICRO TECHNOLOGIES INC (PEGA-N)

Inventor: ARMSTRONG A A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5855002	A	19981229	US 96661433	A	19960611	199908 B

Priority Applications (No Type Date): US 96661433 A 19960611

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5855002	A	23		G10L-009/00	

Abstract (Basic): US 5855002 A

The system includes a receiving unit which receives a statement generated by a **human user** in natural language on a word by word basis. An analyser analyses the received statement to identify the subject. The analyser reformats the statement presented in the form of question into statement in the form of sentence. The analyser identifies **keywords** based on prestored words in the stored resource information. The searching unit searches the stored resource information for the data related to the identified subject. The searching unit includes a pair of storage areas for storing resources associated with the **user** and the system respectively.

Another storage area of the searching unit stores resources external to the system. A data providing unit provides data from the stored resource information related to identified subject to the **users**. A determination unit determines mood of the **users** from the statements generated by the **user** and creates **human** like response. An output unit outputs information to the **user** based upon analysis of data from the stored resource information to provide an answer to the **user** and thereby outputs new data to the **user** which is not directly stored in the resource information.

USE - For interfacing **human** to data processor having **human** like responses.

ADVANTAGE - Offers highly efficient, natural language, multilingual, linguistically programmable artificial language acquisition device to learn new tasks and to share learnt data between itself and other databases. Operates on natural **human** sentence structure and commands to enable use by operators who are not familiar with computer operations.

Dwg.15/16

Title Terms: ARTIFICIAL; INTELLIGENCE; NATURAL; LANGUAGE; COMPUTATION;

INTERFACE; SYSTEM; OUTPUT; INFORMATION; **USER**; BASED; ANALYSE; DATA;

STORAGE; RESOURCE; INFORMATION; NEW; DATA; **USER**; STORAGE; RESOURCE;

INFORMATION

Derwent Class: P86; W04

International Patent Class (Main): G10L-009/00

File Segment: EPI; EngPI

Set	Items	Description
S1	495664	NEURAL() (SYSTEM? OR NETWORK? OR NET OR NETS) OR AI OR ARTIFICIAL() INTELLIGEN? OR ANN OR MACHINE(N) (TRAINING OR LEARNING) OR ANS OR NEUROMORPH? OR LEARNING() APPARATUS
S2	142995	KEYWORD? OR KEYTERM? OR KEYPHRASE? OR (INDEX OR KEY) () (WORD? OR TERM OR TERMS OR PHRASE?) OR DESCRIPTOR?
S3	9895590	NECESSIT? OR ESSENTIAL? OR NECESSAR? OR REQUIRE? OR UNNECESSAR? OR MUST OR NEEDED OR IMPORTAN? OR VITAL
S4	13868577	WEIGH? OR SCORE? OR VALUE? OR PRICE? OR COST? OR LEVEL? OR METRIC?
S5	2356846	VOTE? OR VOTING OR SIGNAL? OR VECTOR? OR INPUT? OR IN() (PUT OR PUTTING)
S6	13277205	HUMAN? OR INDIVIDUAL? OR PERSON? OR USER? OR MEMBER? OR USER? OR CUSTOMER? OR PATRON?
S7	91245	S5(2N)S6
S8	1	S1(S)S2(S)S4(S)S7
S9	4	S1(S)S2(S)S3(S)S4(S)S5
S10	50	S1(S)S2(S)S3(S)S4
S11	10	S1(S)S2(S)S3(S)S5
S12	57	S8 OR S9 OR S10 OR S11
S13	48	RD (unique items)
S14	12	S13 NOT PY>1995
S15	43	S1(5N)S2(S)S6
S16	54	S14 OR S15
S17	38	RD (unique items)
S18	19	S17 NOT PY>1995
S19	17	S18 NOT PD=19950409:19980409
S20	17	S19 NOT PD=19980409:20010409
S21	17	S20 NOT PD=20010409:20040901
File	275	Gale Group Computer DB(TM) 1983-2004/Aug 25 (c) 2004 The Gale Group
File	47	Gale Group Magazine DB(TM) 1959-2004/Aug 25 (c) 2004 The Gale group
File	75	TGG Management Contents(R) 86-2004/Aug W3 (c) 2004 The Gale Group
File	636	Gale Group Newsletter DB(TM) 1987-2004/Aug 25 (c) 2004 The Gale Group
File	16	Gale Group PROMT(R) 1990-2004/Aug 25 (c) 2004 The Gale Group
File	624	McGraw-Hill Publications 1985-2004/Aug 24 (c) 2004 McGraw-Hill Co. Inc
File	484	Periodical Abs Plustext 1986-2004/Aug W3 (c) 2004 ProQuest
File	613	PR Newswire 1999-2004/Aug 25 (c) 2004 PR Newswire Association Inc
File	813	PR Newswire 1987-1999/Apr 30 (c) 1999 PR Newswire Association Inc
File	141	Readers Guide 1983-2004/Jul (c) 2004 The HW Wilson Co
File	239	Mathsci 1940-2004/Oct (c) 2004 American Mathematical Society
File	370	Science 1996-1999/Jul W3 (c) 1999 AAAS
File	696	DIALOG Telecom. Newsletters 1995-2004/Aug 24 (c) 2004 The Dialog Corp.
File	553	Wilson Bus. Abs. FullText 1982-2004/Jul (c) 2004 The HW Wilson Co
File	621	Gale Group New Prod.Annou.(R) 1985-2004/Aug 25 (c) 2004 The Gale Group
File	674	Computer News Fulltext 1989-2004/Aug W2 (c) 2004 IDG Communications

21/3,K/1 (Item 1 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01555362 SUPPLIER NUMBER: 13723635 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**From frogs to fuzzy logic: Excalibur's revolutionary neural text search**  
**hits UK. (Excalibur Technologies Inc.'s PixTex/Electronic Filing System**  
**document imaging and control software) (Product Announcement)**

Everett, Catherine  
Computergram International, CGI12030006  
Dec 3, 1992  
DOCUMENT TYPE: Product Announcement ISSN: 0268-716X LANGUAGE:  
ENGLISH RECORD TYPE: FULLTEXT  
WORD COUNT: 1043 LINE COUNT: 00080

... documents are indexed as a series of binary patterns. This eliminates the need to create **key - word** tables, topics or directories for data retrieval, which, in turn, eliminates discrepancies in the criteria used when indexing information. Information retrieval is carried out on two **levels**. When the user wants to find a particular text, he keys in a word or string of words, related to the file he **requires**. The **neural network** - intelligent software that emulates the way the brain works and learns from experience - compares the binary patterns of the **key words** with those contained in the index. So-called 'fuzzy logic' then locates roughly comparable binary...  
...up in 1980 by biologist James Dowe, who used the research he had done on **neural networks** to develop a fuzzy keyboard to help him overcome his dyslexia. His findings were based...

21/3,K/2 (Item 2 from file: 275)  
DIALOG(R)File 275:Gale Group Computer DB(TM)  
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01549488 SUPPLIER NUMBER: 13039891 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Personalized information delivery: an analysis of information filtering methods. (Information Filtering) (Technical) (Cover Story)**  
Foltz, Peter W.; Dumais, Susan T.  
Communications of the ACM, v35, n12, p51(10)  
Dec, 1992  
DOCUMENT TYPE: Cover Story ISSN: 0001-0782 LANGUAGE: ENGLISH  
RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 7965 LINE COUNT: 00629

... of occurrence of a word in a document. Thus, documents can be thought of as **vectors** in a multidimensional space, the dimensions of which are the words used to represent the texts. In a standard " **keyword** -matching" **vector** system [17], the similarity between two documents is computed as the inner product or cosine...

...corresponding two columns of the word-by-document matrix. Queries can also be represented as **vectors** of words and thus compared against all document columns with the best matches being returned. An **important** assumption in this **vector** space model is that the words (i.e., dimensions of the space) are orthogonal or...

...approximation, the assumption that words are pairwise independent is not realistic. Recently, several statistical and **AI** techniques have been used to better capture term association and domain semantics. One such method...

21/3,K/10 (Item 2 from file: 47)  
DIALOG(R)File 47:Gale Group Magazine DB(TM)  
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03637901 SUPPLIER NUMBER: 11406571 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**PCs sift news avalanche; users get timely tailored news. (Industry Outlook)**  
Mayer, John H.  
PC World, v9, n11, p78(2)  
Nov, 1991  
ISSN: 0737-8939 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT  
WORD COUNT: 703 LINE COUNT: 00054

...ABSTRACT: story corresponds to the given keyword. First! service also provides user profiles, but artificial intelligence ( AI ) software is also used to **weigh** the **importance** of each **keyword**. The articles are then sent to users via electronic mail or fax. Verity Inc's service claims a hit rate of two to three times more than **keyword** profiles. Using Topic Real-Time software, the service is able to scan documents for content...  
... depending on the number of wire services selected.

Further Fine-Tuning

First!, a service from **Individual** Inc. in Cambridge, Massachusetts, goes still further in tailoring its reports to the **user**'s needs, using AI -based software to weight different **keywords** in a **user**'s profile. Each night the five or ten most relevant stories are sent to the **customer** via fax or E-mail. "It's like picking up a Wall Street Journal every...

Set	Items	Description
S1	811786	NEURAL() (SYSTEM? OR NETWORK? OR NET OR NETS) OR AI OR ARTIFICIAL() INTELLIGEN? OR ANN OR MACHINE(N) (TRAINING OR LEARNING) OR ANS OR NEUROMORPH? OR LEARNING() APPARATUS
S2	86297	KEYWORD? OR KEYTERM? OR KEYPHRASE? OR (INDEX OR KEY) () (WORD? OR TERM OR TERMS OR PHRASE?) OR DESCRIPTOR?
S3	8238961	NECESSIT? OR ESSENTIAL? OR NECESSAR? OR REQUIRE? OR UNNECESSAR? OR MUST OR NEEDED OR IMPORTAN? OR VITAL
S4	10760827	WEIGH? OR SCORE? OR VALUE? OR PRICE? OR COST? OR LEVEL? OR METRIC?
S5	3866373	VOTE? OR VOTING OR SIGNAL? OR VECTOR? OR INPUT? OR IN() (PUT OR PUTTING)
S6	10651308	HUMAN? OR INDIVIDUAL? OR PERSON? OR USER? OR MEMBER? OR US-ER? OR CUSTOMER? OR PATRON?
S7	61	S1 AND S2 AND S3 AND S4 AND S5 AND S6
S8	1183	S1 AND S2 AND S3
S9	140	S8 AND S4 AND S5
S10	20	S8 AND S5(2N)S6
S11	152	S7 OR S9 OR S10
S12	117	RD (unique items)
S13	41	S12 NOT PY>1995
S14	41	S13 NOT PD=19950904:19980904
S15	41	S14 NOT PD=19980904:20010904
S16	41	S15 NOT PD=20010904:20040901
File	8:Ei Compendex(R) 1970-2004/Aug W3	
	(c) 2004 Elsevier Eng. Info. Inc.	
File	35:Dissertation Abs Online 1861-2004/Jul	
	(c) 2004 ProQuest Info&Learning	
File	202:Info. Sci. & Tech. Abs. 1966-2004/Jul 12	
	(c) 2004 EBSCO Publishing	
File	65:Inside Conferences 1993-2004/Aug W4	
	(c) 2004 BLDSC all rts. reserv.	
File	2:INSPEC 1969-2004/Aug W3	
	(c) 2004 Institution of Electrical Engineers	
File	94:JICST-EPlus 1985-2004/Aug W1	
	(c) 2004 Japan Science and Tech Corp(JST)	
File	111:TGG Natl.Newspaper Index(SM) 1979-2004/Aug 25	
	(c) 2004 The Gale Group	
File	233:Internet & Personal Comp. Abs. 1981-2003/Sep	
	(c) 2003 EBSCO Pub.	
File	6:NTIS 1964-2004/Aug W3	
	(c) 2004 NTIS, Int'l Cpyrgh All Rights Res	
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File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	
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File	34:SciSearch(R) Cited Ref Sci 1990-2004/Aug W3	
	(c) 2004 Inst for Sci Info	
File	62:SPIN(R) 1975-2004/Jun W4	
	(c) 2004 American Institute of Physics	
File	99:Wilson Appl. Sci & Tech Abs 1983-2004/Jul	
	(c) 2004 The HW Wilson Co.	
File	95:TEME-Technology & Management 1989-2004/Jun W1	
	(c) 2004 FIZ TECHNIK	

16/5/2 (Item 2 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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03701896 E.I. No: EIP93081062943

Title: Hybrid neural - network /HMM approaches to wordspotting

Author: Lippmann, Richard P.; Singer, Elliot

Corporate Source: MIT, Lexington, MA, USA

Conference Title: 1993 IEEE International Conference on Acoustics, Speech and Signal Processing

Conference Location: Minneapolis, MN, USA Conference Date: 19930427-19930430

Sponsor: IEEE; Signal Processing Society

E.I. Conference No.: 18798

Source: Plenary, Special, Audio, Underwater Acoustics, VLSI, Neural Networks Proceedings - ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing v 1 1993. Publ by IEEE, IEEE Service Center, Piscataway, NJ, USA. p I-565-I-568

Publication Year: 1993

CODEN: IPRODJ ISSN: 0736-7791 ISBN: 0-7803-0946-4

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical); A; (Applications)

Journal Announcement: 9310W5

Abstract: Two approaches to integrating **neural network** and hidden Markov model (HMM) algorithms into one hybrid wordspotter are being explored. One approach uses **neural network** secondary testing to analyze putative hits produced by a high-performance HMM wordspotter. This has provided consistent but small reductions in the number of false alarms **required** to obtain a given detection rate. In one set of experiments using the NIST Road Rally database, secondary testing reduced the false alarm rate by an average of 16.4%. A second approach uses radial basis function (RBF) **neural networks** to produce local matching **scores** for a Viterbi decoder. Network **weights** and RBF centers are trained at the word **level** to produce a 'high' **score** for the correct **keyword** hits and a 'low' **score** for false alarms generated by non-**keyword** speech. Preliminary experiments using this approach are exploring a constructive approach which adds RBF centers to model non-**keyword** near-misses and a **cost** function which attempts to directly maximize average detection accuracy over a specified range of false alarm rates. (Author abstract) 8 Refs.

Descriptors: **Neural networks**; Random processes; Algorithms; Speech recognition; Database systems; Decoding; **Signal** detection

Identifiers: Word spotting; Markov models; Hidden Markov models; Viterbi decoders

Classification Codes:

713.5 (Other Electronic Circuits); 922.2 (Mathematical Statistics); 723.5 (Computer Applications); 723.3 (Database Systems); 716.1 (Information & Communication Theory)

713 (Electronic Circuits); 922 (Statistical Methods); 723 (Computer Software); 716 (Radar, Radio & TV Electronic Equipment)

71 (ELECTRONICS & COMMUNICATIONS); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING)

942504 ORDER NO: AAD87-02684

**ADAPTIVE INFORMATION RETRIEVAL: MACHINE LEARNING IN ASSOCIATIVE NETWORKS (CONNECTIONIST, FREE-TEXT, BROWSING, FEEDBACK)**

Author: BELEW, RICHARD KUEHN

Degree: PH.D.

Year: 1986

Corporate Source/Institution: THE UNIVERSITY OF MICHIGAN (0127)

Source: VOLUME 47/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 4216. 328 PAGES

Descriptors: COMPUTER SCIENCE

Descriptor Codes: 0984

One interesting issue in **artificial intelligence** (AI) currently is the relative merits of, and relationship between, the "symbolic" and "connectionist" approaches to intelligent systems building. The performance of more traditional symbolic systems has been striking, but getting these systems to learn truly new symbols has proven difficult. Recently, some researchers have begun to explore a distinctly different type of representation, similar in some respects to the nerve nets of several decades past. In these massively parallel, connectionist models, symbols arise implicitly, through the interactions of many simple and sub-symbolic elements. One of the advantages of using such simple elements as building blocks is that several learning algorithms work quite well. The range of application for connectionist models has remained limited, however, and it has been difficult to bridge the gap between this work and standard AI.

The AIR system represents a connectionist approach to the problem of free-text information retrieval (IR). Not only is this an increasingly important type of data, but it provides an excellent demonstration of the advantages of connectionist mechanisms, particularly adaptive mechanisms. AIR's goal is to build an indexing structure that will retrieve documents that are likely to be found relevant. Over time, by using **users**' browsing patterns as an indication of approval, AIR comes to learn what the **keywords** (symbols) mean so as use them to retrieve appropriate documents. AIR thus attempts to bridge the gap between connectionist learning techniques and symbolic knowledge representations.

The work described was done in two phases. The first phase concentrated on mapping the IR task into a connectionist network; it is shown that IR is very amenable to this representation. The second, more central phase of the research has shown that this network can also adapt. AIR translates the browsing behaviors of its **users** into a feedback **signal** used by a Hebbian-like local learning rule to change the **weights** on some links. Experience with a series of alternative learning rules are reported, and the results of experiments using **human** subjects to evaluate the results of AIR's learning are presented.

16/5/13 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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5026206 INSPEC Abstract Number: B9510-6210M-009, C9510-3370-002

Title: Application of neural network in ATM call admission control based on cell transfer state monitoring with dynamic threshold

Author(s): Ogino, N.; Wakahara, Y.

Author Affiliation: Res. & Dev. Lab., Kokusai Denshin Denwa Co. Ltd., Kamifukuoka, Japan

Journal: IEICE Transactions on Communications vol.E78-B, no.4 p. 465-75

Publication Date: April 1995 Country of Publication: Japan

CODEN: ITCMEZ ISSN: 0916-8516

Language: English Document Type: Journal Paper (JP)

Treatment: Applications (A); Theoretical (T)

Abstract: This paper proposes a new ATM call admission control scheme based on cell transfer state monitoring which does not **require** that **users** specify **values** of traffic **descriptors** in detail when they originate calls. ATM is considered to be the most promising approach to realize B-ISDN. In this proposed scheme, the acceptance or rejection of calls is judged by comparing the monitored cell transfer state **value** with a threshold prepared in advance. This threshold **must** be adjusted according to changes in the characteristics of traffic applied to ATM networks. This is one of the most serious problems in the control scheme based on the monitoring of cell transfer state. Herein, this paper proposes the application of **neural networks** to the control scheme in order to resolve this problem and improve performance. In principle, the threshold can be adjusted automatically by the self-learning function of the **neural network**, and the control can be maintained appropriately even if the characteristics of traffic applied to ATM networks change drastically. In this paper, the effectiveness of the application of a **neural network** is clarified by showing the configuration of this proposed control scheme with the **neural network**, a method for deciding various parameter **values needed** to implement this control scheme, and finally the results of a performance evaluation of the control scheme. **Inputs required** by the **neural network** are also discussed. (10 Refs)

Subfile: B C

Descriptors: asynchronous transfer mode; B-ISDN; computerised monitoring; **neural nets**; telecommunication congestion control; telecommunication traffic

Identifiers: **neural network**; call admission control; cell transfer state monitoring; traffic **descriptors**; monitored cell transfer state **value**; ATM networks; self-learning function; B-ISDN; dynamic threshold; traffic control

Class Codes: B6210M (ISDN); B6150C (Communication switching); C3370 (Control applications in telecommunications); C1230D (Neural nets)

Copyright 1995, IEE

Set	Items	Description
S1	97	AU=(KINDO T? OR KINDO, T?)
S2	49	S1 AND (NEURAL() (NET OR NETS OR NETWORK?) OR ANN OR AI OR - ARTIFICIAL()INTELLIGEN? OR MACHINE()LEARN? OR LEARNING()APPAR- ATUS)
S3	30	RD (unique items)
S4	12	S3 NOT PY>1995
File	2:INSPEC	1969-2004/Aug W3 (c) 2004 Institution of Electrical Engineers
File	6:NTIS	1964-2004/Aug W3 (c) 2004 NTIS, Intl Cpyrgh All Rights Res
File	8:Ei Compendex(R)	1970-2004/Aug W3 (c) 2004 Elsevier Eng. Info. Inc.
File	34:SciSearch(R)	Cited Ref Sci 1990-2004/Aug W3 (c) 2004 Inst for Sci Info
File	35:Dissertation Abs	Online 1861-2004/Jul (c) 2004 ProQuest Info&Learning
File	65:Inside Conferences	1993-2004/Aug W4 (c) 2004 BLDSC all rts. reserv.
File	94:JICST-EPlus	1985-2004/Aug W1 (c)2004 Japan Science and Tech Corp(JST)
File	144:Pascal	1973-2004/Aug W3 (c) 2004 INIST/CNRS
File	148:Gale Group Trade & Industry DB	1976-2004/Aug 24 (c)2004 The Gale Group
File	275:Gale Group Computer DB(TM)	1983-2004/Aug 24 (c) 2004 The Gale Group
File	674:Computer News Fulltext	1989-2004/Aug W2 (c) 2004 IDG Communications
File	647:CMP Computer Fulltext	1988-2004/Aug W3 (c) 2004 CMP Media, LLC
File	636:Gale Group Newsletter DB(TM)	1987-2004/Aug 24 (c) 2004 The Gale Group

4/5,K/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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5061498 INSPEC Abstract Number: C9511-1230D-026

Title: A quasi-competitive network with transition between models

Author(s): Kindo, T.

Author Affiliation: Matsushita Res. Inst., Kawasaki, Japan

Journal: Systems and Computers in Japan vol.26, no.5 p.54-66

Publication Date: May 1995 Country of Publication: USA

CODEN: SCJAEP ISSN: 0882-1666

U.S. Copyright Clearance Center Code: 0882-1666/95/0005-0054

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P); Theoretical (T)

Abstract: This paper proposes a quasi-competitive network in which the mass reaction intensity of the elements in the intermediate layer is kept constant as a model that approximates the continuous nonlinear function. As the loss function, the local loss function is considered. It is composed of the error and the local model loss term reflecting the local model size. The learning algorithm of the quasi-competitive network including the change of the number of elements is derived from the local loss function. It is shown by numerical experiment that the quasi-competitive network can form quickly the structure reflecting the target function and has a high generalization power. It is shown also that the high generalization power is due to the constant mass reaction intensity of the elements in the intermediate layer of the quasi-competitive network. (7 Refs)

Subfile: C

Descriptors: learning (artificial intelligence); neural nets

Identifiers: quasi-competitive network; transition; mass reaction intensity; continuous nonlinear function; learning algorithm

Class Codes: C1230D (Neural nets); C1240 (Adaptive system theory)

Copyright 1995, IEE

Author(s): Kindo, T.

Descriptors: learning (artificial intelligence); ...

... neural nets

4/5,K/2 (Item 1 from file: 65)

DIALOG(R)File 65:Inside Conferences

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00788531 INSIDE CONFERENCE ITEM ID: CN007705141

Analysis and Improvement of Associative Memory from the Viewpoint of Linear Algebra

Kakeya, H.; Kindo, T.

CONFERENCE: Intelligent engineering systems through artificial neural networks Vol 4-Artificial neural networks in engineering conference ASME PRESS SERIES ON INTERNATIONAL ADVANCES IN DESIGN PRODUCTIVITY P: 121-126

ASME Press, 1994

ISBN: 0791800458

LANGUAGE: English DOCUMENT TYPE: Conference Papers

CONFERENCE EDITOR(S): Dagli, C. H.

CONFERENCE LOCATION: St Louis, MO

CONFERENCE DATE: Nov 1994 (199411) (199411)

BRITISH LIBRARY ITEM LOCATION: 95/05278 Intelligent

NOTE:

Also known as ANNIE '94

DESCRIPTORS: ANNIE; artificial neural networks ; intelligent engineering systems

Kakeya, H.; Kindo, T.

DESCRIPTORS: ANNIE; artificial neural networks ; intelligent engineering systems

4/5,K/3 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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02389476 JICST ACCESSION NUMBER: 95A0771829 FILE SEGMENT: JICST-E

**Quasi-Articulation of Continuous Functions with a Competitive Radial Basis Neural Network .**

OKA NATSUKI (1); **KINDO TOSHIKI** (1)

(1) Matsushitagiken Hyuman'intafesuken

Jinko Chino Gakkai Zenkoku Taikai Ronbunshu(Proceedings of the Annual Conference of JSAl), 1995, VOL.9th, PAGE.181-184, FIG.6, REF.12

JOURNAL NUMBER: X0580AAA

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:007.52 681.3:007.51

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: In order to improve comprehensibility and computability of learned results, proposed is a learning algorithm that articulates input-output relations of continuous functions. Newly added constraints on the learning process of a competitive radial basis **neural network** enable the articulation. Preliminary experiments demonstrate that suitable articulation is obtained in most cases, and that the network simulates the target functions in a manner which is beyond the designers' expectation in some cases. Also considered is the implication of the algorithm in the generation of consciousness.  
(author abst.)

DESCRIPTORS: **neural network** model; learning; problem solving; creativity; consciousness; learning curve; learning model; loss function

BROADER DESCRIPTORS: biomodel; model; curve; line; function(mathematics); mapping(mathematics)

CLASSIFICATION CODE(S): JC06010Q; JE08000Z

**Quasi-Articulation of Continuous Functions with a Competitive Radial Basis Neural Network .**

OKA NATSUKI (1); **KINDO TOSHIKI** (1)

...ABSTRACT: of continuous functions. Newly added constraints on the learning process of a competitive radial basis **neural network** enable the articulation. Preliminary experiments demonstrate that suitable articulation is obtained in most cases, and...

DESCRIPTORS: **neural network** model...

4/5,K/4 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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02344870 JICST ACCESSION NUMBER: 95A0366787 FILE SEGMENT: JICST-E

**Associative Memory Composed of Neuro-window Elements.**

KAKEYA HIDEKI (1); **KINDO TOSHIKI** (2)

(1) Univ. of Tokyo, Fac. of Eng.; (2) Matsushita Res. Inst. Tokyo, Inc.

Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Engineers), 1995, VOL.94,NO.563(NC94 114-155), PAGE.25-32, FIG.10, REF.10

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 681.32.07 681.3:007.51

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: An associative memory model composed of neuro-window elements is proposed. In this model, one of the multiple stored bands is stabilized by adjusting a parameter of the partial reverse dynamics so that a memory pattern of the stable band can be retrieved. Multiple stored bands are generated by memorizing patterns with different learning constants or by memorizing correlated patterns. When memory patterns

are hierarchically correlated, hierarchical concepts are formed and a level of the hierarchy can be selected to be recalled. (author abst.)  
DESCRIPTORS: associative storage system; associative memory; autocorrelation; memory(psychology); hierarchical structure; concept; geometry; memory capacity; weighting; learning; pattern recognition; neural network model  
BROADER DESCRIPTORS: storage system; method; memory(computer); equipment; correlation; structure; mathematics; memory characteristic; characteristic; capacity; action and behavior; recognition; biomodel; model  
CLASSIFICATION CODE(S): JC02040V; JE08000Z

; KINDO TOSHIKI (2)  
...DESCRIPTORS: neural network model

4/5,K/5 (Item 3 from file: 94)  
DIALOG(R)File 94:JICST-Eplus  
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02344869 JICST ACCESSION NUMBER: 95A0366786 FILE SEGMENT: JICST-E  
**Goometrical Properties of Autocorrelation Associative Memory.**  
KINDO TOSHIKI (1); KAKEYA HIDEKI (2)  
(1) Matsushita Res. Inst. Tokyo, Inc.; (2) Univ. of Tokyo  
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report  
(Institute of Electronics, Information and Communication Enginners),  
1995, VOL.94,NO.563(NC94 114-155), PAGE.17-24, FIG.5, REF.19  
JOURNAL NUMBER: S0532BBG  
UNIVERSAL DECIMAL CLASSIFICATION: 681.32.07 681.3:007.51  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Original paper  
MEDIA TYPE: Printed Publication  
ABSTRACT: An autocorrelation associative memory is analyzed geometrically.  
From the geometrical viewpoint, the state transition of the associative memory is expressed as a dynamics on the sphere. The dynamics is mainly dominated by the flow on the sphere which is generated by linear transformation with the weight matrix of the associative memory.  
Properties of the associative memory are revealed through the analysis of the flow. The capacity is given by the memory ratio at the critical point of the phase transition of the associative memory where the flow changes drastically. Considering the relation between the property of the flow and the eigenvalues of the weight matrix, the variance of the eigenvalues is not only the origin of the driving force in recalling process but also the leading cause of the instability of stored vectors. In order to weaken this instability, we propose a stored vector stabilizing method with the modification of the weight matrix. Numerical experiments suggest that this method enhances the capacity and expands the attracting basin of the stored vector. (author abst.)  
DESCRIPTORS: associative storage system; associative memory; autocorrelation; memory capacity; eigenvalue; spherical surface; neuron ; geometry; neural network model; fixed point(mathematics)  
BROADER DESCRIPTORS: storage system; method; memory(computer); equipment; correlation; memory characteristic; characteristic; capacity; numerical value; quadric surface; curved surface; face; nerve tissue; animal tissue; biomedical tissue; organization; mathematics; biomodel; model; point  
CLASSIFICATION CODE(S): JC02040V; JE08000Z

KINDO TOSHIKI (1)  
...DESCRIPTORS: neural network model

4/5,K/6 (Item 4 from file: 94)  
DIALOG(R)File 94:JICST-Eplus  
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02197253 JICST ACCESSION NUMBER: 94A0706419 FILE SEGMENT: JICST-E

**Improvement of Memorization Method of Autocorrelation Associative Memory.**

KAKEYA HIDEKI (1); KINDO TOSHIKI (2)

(1) Univ. of Tokyo, Fac. of Eng.; (2) Matsushita Res. Inst. Tokyo, Inc.

Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report  
(Institute of Electronics, Information and Communication Engineers),

1994, VOL.94,NO.182(NC94 24-31), PAGE.9-16 , FIG.7, REF.5

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 681.32.07 681.3:007.52

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**ABSTRACT:** Autocorrelation associative memory, whose weight matrix is given simply by summing up all the autocorrelation matrices of memory patterns, has little memory capacity. The capacity, however, can easily be increased by a simple modification of memorizing method. Sign alternating memorization method has already been proposed as an example of such modifications. In the present paper, the authors propose pairing memorization method, which attains the same association ability as sign alternating memorization method. The authors also propose a new dynamics which achieves even more memory capacity of associative memory with a sign alternating memory matrix and a pairing memory matrix.

(author abst.)

**DESCRIPTORS:** associative storage system; autocorrelation function; matrix(mathematics); memory capacity; **neural network**; eigenvalue; stability; reversal; associative memory

**BROADER DESCRIPTORS:** storage system; method; correlation function; function(mathematics); mapping(mathematics); algebraic system; memory characteristic; characteristic; capacity; network; numerical value; memory(computer); equipment

CLASSIFICATION CODE(S): JC02040V; JC06010Q

; KINDO TOSHIKI (2)

...DESCRIPTORS: **neural network** ;

4/5,K/7 (Item 5 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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02193983 JICST ACCESSION NUMBER: 94A0645523 FILE SEGMENT: JICST-E

**Refining, Adding, and Deleting Rules with a Competitive Radial Basis**

Neural Network .

OKA NATSUKI (1); KINDO TOSHIKI (1)

(1) Matsushitagiken Hyuman'intafesuken

Joho Shori Gakkai Kenkyu Hokoku, 1994, VOL.94,NO.52(AI-94), PAGE.19-28,  
FIG.3, REF.14

JOURNAL NUMBER: Z0031BAO ISSN NO: 0919-6072

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:007.52 681.3:007.51

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**ABSTRACT:** Given if-then rules are naturally converted into QCNet, a competitive radial basis **neural network**, which is then trained with examples. Preliminary experiments demonstrate that the converted rules are refined, new nodes, which correspond to new rules, are added, and redundant or incorrect nodes, which correspond to redundant or incorrect rules, are deleted during training. In order to improve the comprehensibility of the results and to handle noisy examples, proposed is a better algorithm that deletes units in QCNet. (author abst.)

**DESCRIPTORS:** **neural network** model; production system( **AI** ); embedding; learning; noise(signal); algorithm; gradient method; redundancy(property

**BROADER DESCRIPTORS:** biomodel; model; **artificial intelligence** system; computer application system; system; optimization method; property

CLASSIFICATION CODE(S): JC06010Q; JE08000Z

**Refining, Adding, and Deleting Rules with a Competitive Radial Basis**

Neural Network .

OKA NATSUKI (1); KINDO TOSHIKI (1)

**ABSTRACT:** Given if-then rules are naturally converted into QCNet, a competitive radial basis **neural network**, which is then trained with examples. Preliminary experiments demonstrate that the converted rules are refined...

**DESCRIPTORS:** **neural network** model...

...production system( AI );

...BROADER DESCRIPTORS: **artificial intelligence** system

**4/5,K/8 (Item 6 from file: 94)**

DIALOG(R)File 94:JICST-Eplus

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02065573 JICST ACCESSION NUMBER: 94A0511828 FILE SEGMENT: JICST-E

**A Quasi-Competitive Network with Unlearning.**

KINDO TOSHIKI (1)

(1) Matsushita Res. Inst. Tokyo, Inc.

Densi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report  
(Institute of Electronics, Information and Communication Engineers),  
1994, VOL.94,NO.40(NC94 1-13), PAGE.9-16, FIG.4, REF.7

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:007.51

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**ABSTRACT:** A quasi-competitive network(QCNet) is a **neural network** model to approximate nonlinear functions. As the total activation of a hidden layer is fixed, QCNet gives a high performance on the interpolation between the given data. The learning is very fast because QCNet adapts its model size to a target function by creating new units. In this paper the author proposes the generalized learning algorithm which includes unlearning. QCNet is model which represents the function from local information. The unlearning algorithm is simple because it needs only local informations of the model. This generalized learning algorithm suppresses the number of active units, but doesn't effect the output error and the learning speed. (author abst.)

**DESCRIPTORS:** **neural network**; function approximation; optimum circuit;  
unsupervised learning; gradient method; **neural network** model

**BROADER DESCRIPTORS:** network; approximation method; circuit; learning;  
optimization method; biomodel; model

**CLASSIFICATION CODE(S):** JE08000Z

KINDO TOSHIKI (1)

**ABSTRACT:** A quasi-competitive network(QCNet) is a **neural network** model to approximate nonlinear functions. As the total activation of a hidden layer is fixed...

**DESCRIPTORS:** **neural network** ; ...

... **neural network** model

**4/5,K/9 (Item 7 from file: 94)**

DIALOG(R)File 94:JICST-Eplus

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02065572 JICST ACCESSION NUMBER: 94A0511827 FILE SEGMENT: JICST-E

**An Analysis of Associative Memory Dynamics.**

KINDO TOSHIKI (1)

(1) Matsushita Res. Inst. Tokyo, Inc.

Densi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report  
(Institute of Electronics, Information and Communication Engineers),  
1994, VOL.94,NO.40(NC94 1-13), PAGE.1-8, FIG.7, REF.4

JOURNAL NUMBER: S0532BBG

UNIVERSAL DECIMAL CLASSIFICATION: 681.32.07 681.3:007.51  
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal  
ARTICLE TYPE: Original paper  
MEDIA TYPE: Printed Publication

ABSTRACT: The dynamics of associative memory with autocorrelation matrix is studied. The dynamics has the linear and the non-linear transformation part. The linear transformation part is dominant in the dynamical process. This part generates a flow on a (N-1) dimensional sphere which includes all memorized patterns when the associative memory has N units. The flow describes an outline of the recalling process and drastically changes at  $\lambda_{\min} = 2P$ , where  $\lambda_{\min}$  is the minimum eigen-value of the autocorrelation matrix and P is a number of memorized patterns. Then the eigen-vector which has the minimum eigen-value becomes unstable so as to break down some memorized patterns. The unstable memorized patterns are carried to new stable states which are constructed by eigen-vectors with large eigen-values.  
(author abst.)

DESCRIPTORS: eigenvalue; linear algebra; weighting; system analysis; neural network; memory capacity; convergence; instability; mathematical transformation; autocorrelation; associative storage system

BROADER DESCRIPTORS: numerical value; algebraic system; action and behavior; analysis; network; memory characteristic; characteristic; capacity; stability; mapping(mathematics); transformation and conversion; correlation; storage system; method

CLASSIFICATION CODE(S): JC02040V; JE08000Z

KINDO TOSHIKI (1)

...DESCRIPTORS: neural network;

4/5,K/10 (Item 8 from file: 94)

DIALOG(R)File 94:JICST-Eplus  
(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.

01507940 JICST ACCESSION NUMBER: 92A0222904 FILE SEGMENT: JICST-E  
The Manipulator Control by A Recurrent Neural Network .

KINDO TOSHIKI (1)

(1) Matsushita Res. Inst. Tokyo, Inc.

John Shori Gakkai Zenkoku Taikai Koen Ronbunshu, 1992, VOL.44th, NO.2,  
PAGE.2.227-2.228, FIG.2, REF.2

JOURNAL NUMBER: S0731ACN

UNIVERSAL DECIMAL CLASSIFICATION: 007.52 612.8:007 681.3:007.51

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

DESCRIPTORS: manipulator; neural network; learning model;  
redundancy(property); multistory structure; constraint  
condition(restriction); learning; feedback; perceptron

BROADER DESCRIPTORS: robot; network; model; property; structure; condition;  
neural network model; biomodel

CLASSIFICATION CODE(S): IC04010B; EL02050C; JE08000Z

The Manipulator Control by A Recurrent Neural Network .

KINDO TOSHIKI (1)

...DESCRIPTORS: neural network;

...BROADER DESCRIPTORS: neural network model

4/5,K/11 (Item 9 from file: 94)

DIALOG(R)File 94:JICST-Eplus  
(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.

01040959 JICST ACCESSION NUMBER: 90A0475587 FILE SEGMENT: JICST-E  
Reproduction of input patterns on the neural network .

KINDO TOSHIKI (1)

(1) Matsushita Res. Inst. Tokyo, Inc.  
Denshi Joho Tsushin Gakkai Zenkoku Taikai Koen Ronbunshu(Spring National  
Convention Record, the Institute of Electronics, Information and  
Communication Engineers), 1990, VOL.1990,NO.Spring Pt.6, PAGE.6.32,  
FIG.4, REF.2

JOURNAL NUMBER: G0508ADY

UNIVERSAL DECIMAL CLASSIFICATION: 612.8:007

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

DESCRIPTORS: **neural network** ; knowledge representation;  
reliability(property); learning; multistory structure; feedback;  
pattern recognition; perceptron; neuron

BROADER DESCRIPTORS: network; representation; performance; structure;  
recognition; **neural network** model; biomodel; model; nerve tissue;  
animal tissue; biomedical tissue; organization

CLASSIFICATION CODE(S): EL02050C

Reproduction of input patterns on the neural network .

KINDO TOSHIKI (1)

DESCRIPTORS: **neural network** ;

...BROADER DESCRIPTORS: **neural network** model

4/5,K/12 (Item 10 from file: 94)

DIALOG(R)File 94:JICST-Eplus

(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.

00933280 JICST ACCESSION NUMBER: 90A0020307 FILE SEGMENT: JICST-E

An inquisitive neural - net .

KINDO TOSHIKI (1); YOSHIDA KUNIHIKO (1)

(1) Matsushita Res. Inst. Tokyo, Inc.

Joho Shori Gakkai Zenkoku Taikai Koen Ronbunshu, 1989, VOL.39th,NO.1,  
PAGE.418-419, FIG.2, REF.1

JOURNAL NUMBER: S0731ACN

UNIVERSAL DECIMAL CLASSIFICATION: 612.8:007 681.3:007.51

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

DESCRIPTORS: **neural network** ; query; learning; network structure;  
hierarchical structure; parallel processing; distributed processing;  
judgment; neuron

BROADER DESCRIPTORS: network; action and behavior; structure; treatment;  
thinking; nerve tissue; animal tissue; biomedical tissue; organization

CLASSIFICATION CODE(S): EL02050C; JE08000Z

An inquisitive neural - net .

KINDO TOSHIKI (1); YOSHIDA KUNIHIKO (1)

DESCRIPTORS: **neural network** ;

Set	Items	Description
S1	64	AU=(KINDO T? OR KINDO, T?)
S2	2	S1 AND IC=(G06F-015/18 OR G06N-003?)
S3	3	S1 AND IC=G06F-015?
S4	3	S2 OR S3
S5	3	IDPAT (sorted in duplicate/non-duplicate order)
S6	3	IDPAT (primary/non-duplicate records only)
File 347:JAPIO Nov 1976-2004/Apr(Updated 040802)		
	(c)	2004 JPO & JAPIO
File 348:EUROPEAN PATENTS 1978-2004/Aug W03		
	(c)	2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040819,UT=20040812		
	(c)	2004 WIPO/Univentio
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200454		
	(c)	2004 Thomson Derwent

6/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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015320916 \*\*Image available\*\*  
WPI Acc No: 2003-381851/200336  
XRPX Acc No: N03-304986

**Communication support system has personal mixing unit whose output is given to communication server and directed to user when matched with user's request**

Patent Assignee: MATSUSHITA ELECTRIC IND CO LTD (MATU ); MATSUSHITA DENKI SANGYO KK (MATU ); KINDO T (KIND-I); OKA N (OKAN-I); ONIZUKA K (ONIZ-I); SHIDA T (SHID-I)

Inventor: KINDO T ; OKA N; ONIZUKA K; SHIDA T

Number of Countries: 102 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200334234	A1	20030424	WO 2002JP10644	A	20021015	200336 B
JP 2003216564	A	20030731	JP 2002288602	A	20021001	200351
US 20040098469	A1	20040520	WO 2002JP10644	A	20021015	200434
			US 2003472989	A	20030926	
EP 1443408	A1	20040804	EP 2002775350	A	20021015	200451
			WO 2002JP10644	A	20021015	

Priority Applications (No Type Date): JP 2002288602 A 20021001; JP 2001316548 A 20011015

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200334234	A1 J	51	G06F-013/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

JP 2003216564 A 18 G06F-013/00

US 20040098469 A1 G06F-015/16

EP 1443408 A1 E G06F-013/00 Based on patent WO 200334234

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

Abstract (Basic): WO 200334234 A1

NOVELTY - A personal mixing unit (111) outputs a voice signal/sentence to a communication server (102) which is directed to the user when user's request matches with the output.

USE - Communication support system.

ADVANTAGE - Synthesizes the voice signal according to the interest of the individual user.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of communication support method. (Drawing includes non-English language text).

communication server (102)  
personal mixing unit (111)  
pp; 51 DwgNo 1/12

Title Terms: COMMUNICATE; SUPPORT; SYSTEM; PERSON; MIX; UNIT; OUTPUT;

COMMUNICATE; SERVE; DIRECT; USER; MATCH; USER; REQUEST

Derwent Class: T01; W01; W04

International Patent Class (Main): G06F-013/00; G06F-015/16

International Patent Class (Additional): G06F-015/00 ; G06F-017/30;  
G06F-017/60; H04M-003/42; H04M-003/56

File Segment: EPI

6/5/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011612622    \*\*Image available\*\*

WPI Acc No: 1998-029750/199803

Related WPI Acc No: 2001-469479; 2001-479694; 2001-479695; 2001-493725

XRPX Acc No: N98-023990

**Information filtering apparatus used in information communication network**

- includes metric learning unit which calculates score of vector quantity, based on which hierarchy of input information is altered

Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU ); MATSUSHITA ELECTRIC IND CO LTD (MATU )

Inventor: KENDO T

Number of Countries: 002 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 9288683	A	19971104	JP 96230012	A	19960830	199803 B
US 6076082	A	20000613	US 96707565	A	19960904	200035
US 20010047345	A1	20011129	US 96707565	A	19960904	200202
			US 2000506600	A	20000218	
			US 2001779837	A	20010209	
US 6327583	B1	20011204	US 96707565	A	19960904	200203
			US 2000506600	A	20000218	
JP 3244005	B2	20020107	JP 96230012	A	19960830	200206
US 20020099676	A1	20020725	US 96707565	A	19960904	200254
			US 2000506600	A	20000218	
			US 2001917956	A	20010731	
US 6647378	B2	20031111	US 96707565	A	19960904	200382
			US 2000506600	A	20000218	
			US 2001779837	A	20010209	

Priority Applications (No Type Date): JP 9631547 A 19960220; JP 95226172 A 19950904

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9288683	A	35		G06F-017/30	
US 6076082	A			G06F-015/18	
US 20010047345	A1			G06F-015/18	Div ex application US 96707565 Div ex application US 2000506600 Div ex patent US 6076082
US 6327583	B1			G06F-017/00	Div ex application US 96707565
JP 3244005	B2	34		G06F-017/30	Previous Publ. patent JP 9288683
US 20020099676	A1			G06F-015/18	Div ex application US 96707565 Div ex application US 2000506600
US 6647378	B2			G06F-015/18	Div ex application US 96707565 Div ex application US 2000506600 Div ex patent US 6076082 Div ex patent US 6327583

Abstract (Basic): JP 9288683 A

The apparatus extracts predetermined information from an information memory (10). A vector generation unit (1) is provided for converting the extracted information into a vector quantity. An input-terminal element is provided for inputting the requirement of extracted information.

A score calculation unit (3) is provided for calculating the score of the vector quantity using a guidance signal. A calculation unit (7) calculates the necessity and reliability of the score. A metric learning unit (19) is provided for calculating the score, based on which hierarchy of input information is altered.

ADVANTAGE - Obtains accurate information.

Dwg.1/19

Title Terms: INFORMATION; FILTER; APPARATUS; INFORMATION; COMMUNICATE; NETWORK; METRIC; LEARNING; UNIT; CALCULATE; SCORE; VECTOR; QUANTITY; BASED; HIERARCHY; INPUT; INFORMATION; ALTER

Derwent Class: T01

International Patent Class (Main): G06F-015/18 ; G06F-017/00; G06F-017/30

File Segment: EPI

008843990 \*\*Image available\*\*

WPI Acc No: 1991-348005/199148

XRPX Acc No: N91-266527

**Automatic adjusting apparatus for TV picture tube - comprises adjustment state detecting section and processing section which includes adjustment control section**

Patent Assignee: MATSUSHITA ELECTRIC IND CO LTD (MATU ); MATSUSHITA ELEC IND CO LTD (MATU )

Inventor: KINDO T ; NAKA M; SAITO M; SHIDA T; TANAKA T; YOSHIDA K

Number of Countries: 005 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 458299	A	19911127	EP 91108269	A	19910522	199148	B
JP 4029494	A	19920131	JP 90133396	A	19900523	199211	
US 5220496	A	19930615	US 91702472	A	19910520	199325	
EP 458299	A3	19920902	EP 91108269	A	19910522	199338	
EP 458299	B1	19961120	EP 91108269	A	19910522	199651	
DE 69123171	E	19970102	DE 623171	A	19910522	199706	
			EP 91108269	A	19910522		

Priority Applications (No Type Date): JP 90133396 A 19900523

Cited Patents: NoSR.Pub; 3.Jnl.Ref; EP 204112

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 4029494 A 7 G06F-015/18

US 5220496 A 8 G06F-015/18

EP 458299 B1 E 10 H04N-009/73

Designated States (Regional): DE FR GB

DE 69123171 E H04N-009/73 Based on patent EP 458299

Abstract (Basic): EP 458299 A

The automatic adjusting appts. adjusts equipment which comprises an adjustment state detecting section and a processing section. The detecting section detects an adjustment state of the equipment so as to output one or a number of adjustment state indexes on the basis of the detected adjustment state and the processing section performs the process on the basis of the adjustment state index to adjust the equipment.

The processing section is equipped with an adjustment state evaluation section for calculating and outputting, on the basis of the adjustment state index, an adjustment evaluation value and an adjustment amount calculation section for calculating, on the basis of the adjustment state index, adjustment amounts for portions of the equipment. The calculation section is controlled on the basis of selection of an adjustment amount from the outputs of the calculation section. The calculation section learns the relation between the adjustment state index and the adjustment amount and calculates the adjustment amount according to the learned relation.

ADVANTAGE - Automatically and effectively performs complex adjusting work e.g. white balance adjustment of TV picture tube. (10pp Dwg.No.1/4)

Title Terms: AUTOMATIC; ADJUST; APPARATUS; TELEVISION; PICTURE; TUBE; COMPRISE; ADJUST; STATE; DETECT; SECTION; PROCESS; SECTION; ADJUST; CONTROL; SECTION

Derwent Class: T01; W03

International Patent Class (Main): G06F-015/18 ; H04N-009/73

International Patent Class (Additional): H04N-017/04

File Segment: EPI

## Search strategy

No.	Database	Search term	Info added since	Results
1	INZZ	ai OR artificial ADJ intelligence OR machine ADJ learning OR neural ADJ network\$ OR neural ADJ net\$ OR genetic ADJ algorithm\$ OR ann OR neuromorph\$	unrestricted	229144
2	INZZ	(c5290 OR c1230d).CC.	unrestricted	84804
3	INZZ	(key OR index OR descriptor) NEAR (word\$ OR term\$ OR phrase\$)	unrestricted	4707
4	INZZ	3 OR keyword\$	unrestricted	8315
5	INZZ	(1 OR 2) AND 4	unrestricted	598
6	INZZ	human\$ OR individual\$ OR person\$ OR manual\$ OR user\$	unrestricted	636721
7	INZZ	necessary OR unnecessary OR require\$ OR essential\$ OR unessential\$	unrestricted	935646
8	INZZ	5 AND 6 AND 7	unrestricted	51
9	INZZ	limit set 8 YEAR < 1996	unrestricted	15

Saved: 26-Aug-2004, 14:18:43 CET

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On intelligent and cooperative information systems: a workshop summary.....	2
KBrows: a knowledge-based documentation browser.....	3
An information retrieval system with ability of analogical inference using semantic network and function of fuzzification.....	4
<b>Search strategy.....</b>	<b>5</b>

**A competition-based connectionist model for information retrieval.**

**Accession number & update**

4917451, C9505-7250R-030; 950405.

**Author(s)**

Inien-Syu; Lang-S-D.

**Author affiliation**

Dept of Comput Sci, Univ of Central Florida, Orlando, FL, USA.

**Source**

Proceedings of 1994 IEEE International Conference on *Neural Networks* (ICNN'94), vol.5, Orlando, FL, USA, 27 June-2 July 1994.

In: p.3301-6 vol.5, 1994.

**ISSN**

ISBN: 0-7803-1901-X, CCCC: 0 7803 1901 X/94/ (\$4.00).

**Publication year**

1994.

**Language**

EN.

**Publication type**

CPP Conference Paper.

**Treatment codes**

T Theoretical or Mathematical.

**Abstract**

In this paper, we adapt a competition-based connectionist model, which has been proposed for diagnostic problem solving, to information retrieval. In our model, documents are treated as "disorders" and *user* information needs as "manifestations", and a competitive activation mechanism is used which converges to a set of disorders that best explain the given manifestations. By combining the ideas of Bayesian inferencing and diagnostic inferencing using parsimonious covering theory, this model removes many difficulties of direct application of Bayesian inference to information retrieval, such as the unrealistically large number of conditional probabilities *required* as part of the knowledge base, the computational complexity, and unreasonable independence assumptions. Also, Bayesian inference strengthens the parsimonious covering model by providing a likelihood measure which can be used to rank documents as well as to guide the search to the most likely retrieval. We also incorporate two types of relevance information to improve the model. First, Roget's thesaurus is used to provide semantic relevance information among the *index terms*. Second, after the *neural network* has been initialized, it is trained using the available query-document relevance judgements. Our preliminary study demonstrate the efficiency and the retrieval precision of this model, comparable to or better than that of the Bayesian *network* models reported in the literature. (14 refs).

**Descriptors**

Bayes-methods; *competitive-algorithms*; computational-complexity; diagnostic-reasoning; information-retrieval; *neural-nets*.

**Keywords**

competition based connectionist model; information retrieval; disorders; *user* information needs; manifestations; competitive activation mechanism; Bayesian inferencing; diagnostic inferencing; parsimonious covering theory; computational complexity; unreasonable independence assumptions; likelihood measure; semantic relevance information; query document relevance judgements.

**Classification codes**

C7250R (Information retrieval techniques).

C5290 (*Neural* computing techniques).

C4240C (Computational complexity).

C6170 (Expert systems).

C1140Z (Other topics in statistics).

**Copyright statement**

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**On intelligent and cooperative information systems: a workshop summary.**

USPTO Full Text Retrieval Options

**Accession number & update**

4352269, C9304-7100-008; 930218.

**Author(s)**

Brodie-M-L; Ceri-S.

**Author affiliation**

GTE Labs Inc, Waltham, MA, USA.

**Source**

International-Journal-of-Intelligent-Cooperative-Information-Systems  
(Singapore), vol.1, no.2, p.249-89, June 1992.

**ISSN**

ISSN: 0218-2157.

**Publication year**

1992.

**Language**

EN.

**Publication type**

J Journal Paper.

**Treatment codes**

P Practical.

**Abstract**

Future information systems will involve large numbers of heterogeneous, intelligent agents distributed over large computer /communication **networks**. Agents may be **humans**, **humans** interacting with computers, **humans** working with computer support, and computer systems performing tasks without **human** intervention. The authors call such systems intelligent and cooperative information systems (ICISs). Although one can imagine extensions of capabilities of current ISs and of **individual** contributing core technologies, such as databases, **artificial intelligence**, operating systems, and programming languages, one cannot imagine the capabilities of ICISs which the authors believe will be based on extensions of these and other technologies. Neither does one know exactly what technologies and capabilities will be **required**, what challenges will arise, nor how the technologies might be integrated or work together to address the challenges. The authors provide initial definitions for **key** concepts and **terms** in this new area, identify potential core contributing technologies, illustrate the ICIS concept with example systems, and pose basic research questions. They also describe the results of discussions on these topics. (36 refs).

**Descriptors**

cooperative-systems; database-management-systems; groupware.

**Keywords**

intelligent information systems; cooperative information systems; databases; **artificial intelligence**; operating systems; programming languages.

**Classification codes**

C7100 (Business and administration).

C7250 (Information storage and retrieval).

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**KBrows: a knowledge-based documentation browser.**

**USPTO Full Text Retrieval Options:**

**Accession number & update**

3643417, C90041864; 900000.

**Author(s)**

Ishida-T.

**Author affiliation**

NTT Commun & Inf Process Labs, Yokosuka, Japan.

**Source**

*Journal-of-Japanese-Society-for-Artificial-Intelligence* (Japan), vol.3, no.4, p.503-10, 1988.

**CODEN**

JCGAED.

**ISSN**

ISSN: 0912-8085.

**Publication year**

1988.

**Language**

JA.

**Publication type**

J Journal Paper.

**Treatment codes**

X Experimental.

**Abstract**

Discusses an experimental knowledge-based documentation browser called KBrows for information retrieval. KBrows incorporates documentation databases, knowledge bases and an inference engine. The KBrows knowledge base is organized in the form of semantic **networks**: **keywords** in documentation are denoted by nodes, and each link expresses a relationship between two **keywords**. A portion of the original document, which describes the relationship, is registered to the link. The automatic exploration is achieved by searching meaningful paths on semantic **networks** and gathering portions of the document along the paths. In particular, two major problems in building and exploring semantic **networks** on documents are considered; stepwise knowledge base refinement, and exploring large semantic **networks**. It is usually not **necessary** to construct a precise knowledge base from the very beginning. A more realistic approach is to construct an approximate knowledge base at first, and then refine it as the necessity arises. This stepwise refinement approach is embodied in KBrows. To support stepwise refinement, KBrows allows **users** to represent knowledge at various levels of refinement, and enables characteristic features of relations to be specified incrementally. Efficient exploration of large semantic **networks** is achieved by using the KBrows production system, in which mechanisms are introduced for focusing on exploration areas. A knowledge base for 'Common LISP: The Language' (CLtL) which is under construction, is considered. (13 refs).

**Descriptors**

database-management-systems; directed-graphs; knowledge-based-systems.

**Keywords**

knowledge-based documentation browser; KBrows; documentation databases; inference engine; semantic **networks**; **keywords**; stepwise knowledge base refinement; Common LISP; CLtL.

**Classification codes**

C6160 (Database management systems (DBMS)).

C6170 (Expert systems).

C1160 (Combinatorial mathematics).

**An information retrieval system with ability of analogical inference using semantic network and function of fuzzification.**

**Accession number & update**

1949331, C82043623; 820000.

**Author(s)**

Nakamura-K; Iwai-S; Ed. by Akashi-H.

**Author affiliation**

Dept of Precision Mech, Kyoto Univ, Kyoto, Japan.

**Source**

Control Science and Technology for the Progress of Society. Proceedings of the Eighth Triennial World Congress of the International Federation of Automatic Control, Kyoto, Japan, 24-28 Aug. 1981, p.791-6 vol.2.

Published: Pergamon, Oxford, UK, 1982, 7 vol. lxxix+3914 pp.

**ISSN**

ISBN: 0-08-027580-X.

**Publication year**

1982.

**Language**

EN.

**Publication type**

CPP Conference Paper.

**Treatment codes**

P Practical; T Theoretical or Mathematical.

**Abstract**

In information retrieval system, it is **necessary** to grasp **user's** subject of interest in order to present appropriate documents to the **user**. In this paper, the authors propose a model of **human** ability of analogical inference based on association between **key words** and, using it, construct an information retrieval system in which the computer with the ability learns its **user's** subject of interest through question-answering with the **user**. In this system, the association between **key words** is represented by a semantic **network**, and a function of fuzzification of input information is introduced in the semantic **network** to implement the ability of analogical inference based on the association. Finally, the effect of analogical inference on the **learning** efficiency of the system is investigated. (5 refs).

**Descriptors**

**artificial-intelligence; cognitive-systems; fuzzy-set-theory; information-retrieval-systems.**

**Keywords**

**artificial intelligence; cognitive systems; information retrieval system; analogical inference; semantic network; fuzzification.**

**Classification codes**

C1160 (Combinatorial mathematics).

C1230 (**Artificial intelligence**).

C7250 (Information storage and retrieval).

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